

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Rodney Smedt et al.

Application No.: 10/714,460

Filed: November 14, 2003

For: MEASUREMENT OF OVERLAY USING  
 DIFFRACTION GRATINGS WHEN OVERLAY  
 EXCEEDS THE GRATING PERIOD



Group Art Unit: Unknown

Examiner: Unknown

**INFORMATION DISCLOSURE  
STATEMENT**

121 Spear Street, Suite 290  
 San Francisco, CA 94105  
 (415) 512-1312

Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, VA 22313-1450

**CERTIFICATE OF MAILING**  
 I hereby certify that this correspondence is being deposited  
 with the United States Postal Service as First Class Mail in an  
 envelope, addressed to: Commissioner for Patents, P.O.  
 Box 1450, Alexandria, VA 22313-1450 on January 16, 2004.  
 STALLMAN & POLLOCK LLP

Dated: 01/16/2004 By: Georgia K. Stith  
 Georgia K. Stith

Sir:

Applicant(s) submit(s) herewith patents, publications or other information [attached hereto and listed on the attached Form PTO-1449 (modified)] of which they are aware, which they believe(s) may be material to the examination of this application and in respect of which there may be a duty to disclose in accordance with 37 CFR § 1.56.

This Information Disclosure Statement:

- (a)  accompanies the new patent application submitted herewith. 37 CFR § 1.97(a).
- (b)  is filed within three months after the filing date of the application or within three months after the date of entry of the national stage of a PCT application as set forth in 37 CFR § 1.491.
- (c)  as far as is known to the undersigned, is filed before the mailing date of a first Office Action on the merits, or before a first office action after filing a Request for Continued Examination under § 1.114.
- (d)  is filed after the first office action and more than three months after the application's filing date or PCT national stage date of entry filing but, as far as is

known to the undersigned, prior to the mailing date of either a final rejection or a notice of allowance, whichever occurs first, and is accompanied by either the fee (\$180) set forth in 37 CFR § 1.17(p) or a certification as specified in 37 CFR § 1.97(e), as checked below.

(e)  is filed after the mailing date of either a final rejection or a notice of allowance, whichever occurred first, and the Issue Fee has not been paid, and is accompanied by the fee (\$130) set forth in 37 CFR § 1.17(i)(1) and a certification as specified in 37 CFR § 1.97(e), as checked below. This document is to be considered as a petition requesting consideration of the information disclosure statement.

[If either of boxes (d) or (e) is checked above, the following "certification" under 37 CFR § 1.97(e) may need to be completed.] The undersigned certifies that:

(f)  Each item of information contained in the information disclosure statement was cited in a communication mailed from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this information disclosure statement.

(g)  No item of information contained in this information disclosure statement was cited in a communication mailed from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned after making reasonable inquiry, was known to any individual designated in 37 CFR § 1.56(c) more than three months prior to the filing of this information disclosure statement.

A list of the patent(s) or publication(s) is set forth on the attached Form PTO-1449 (Modified).

A copy of the items on PTO-1449 (Modified) is supplied herewith, except as noted below.

Those patent(s) or publication(s) which are marked with an asterisk (\*) in the attached form PTO-1449 (Modified) are not supplied because they are (a) either U.S. Patents and this an application filed after June 30, 2003, or (b) were previously cited by or submitted to the Office in a prior application no. \_\_\_\_\_, filed \_\_\_\_\_ and relied upon in this application for an earlier filing date under 35 U.S.C. § 120.

A concise explanation of relevance of the items listed on form PTO-1449 (Modified) is:

(k)  not given

- (l)  given for each listed item
- (m)  given for only non-English language listed item(s) [Required]
- (n)  is in the form of an English language copy of a Search Report from a foreign patent office, issued in a counterpart application, which refers to the relevant portions of the references [copy attached].

The Examiner is reminded that a "concise explanation of the relevance" of the submitted items "may be nothing more than identification of the particular figure or paragraph of the patent or publication which has some relation to the claimed invention," MPEP § 609.

While the information and references disclosed in this Information Disclosure Statement may be "material" pursuant to 37 CFR § 1.56, it is not intended to constitute an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

In accordance with 37 CFR § 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR § 1.56(a) exists. It is submitted that the Information Disclosure Statement is in compliance with 37 CFR § 1.98 and MPEP § 609 and the Examiner is respectfully requested to consider the listed references.

The Commissioner is hereby authorized to charge our Deposit Account No. 50-1703, under Order No. [Client No.] TWI-33110, for any fees required in connection with the filing of this Information Disclosure Statement. **A duplicate copy of this Notice is enclosed for this purpose.** In particular, in the event that an Office Action has crossed in the mail with this Information Disclosure Statement, the Commissioner is authorized to charge the above-named deposit account for any fees required pursuant to CFR §§ 1.17(p) or 1.17(i)(1).

Respectfully submitted,

STALLMAN & POLLOCK LLP

Dated: January 18, 2004

By:

Michael A. Stallman (Reg. No. 29,444)

Attorneys for Applicant(s)

INFORMATION DISCLOSURE CITATION <i>(Use several sheets if necessary)</i>			Docket Number (Optional) TWI-3310	Application Number 10/714,460
			Applicant(s) Rodney Smedt et al.	O I P E
			Filing Date November 14, 2003	Group Art Unit Unknown
			JAN 20 2004	

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	SUBCLASS	FILING DATE
*AA	4,200,395	04/29/1980	Smith et al.	356	356	05/03/1977
*AB	4,757,207	07/12/1988	Chappelow et al.	250	491.1	03/03/1987
*AC	5,216,257	06/01/1993	Brueck et al.	250	548	07/09/1990
*AD	5,343,292	08/30/1994	Brueck et al.	356	363	10/19/1990
*AE	5,805,290	09/08/1998	Ausschnitt et al.	356	401	05/02/1996
*AF	6,023,338	02/08/2000	Bareket	356	401	07/12/1996
*AG	6,079,256	06/27/2000	Bareket	73	105	12/07/1998
*AH	6,462,818	10/08/2002	Bareket	356	401	06/22/2000
*AI	6,483,580	11/19/2002	Xu et al.	356	300	03/06/1998
*AJ	US 2002/0158193	10/31/2002	Sezginer et al.	250	237	02/12/2002
*AK	US 2002/0192577	12/19/2002	Fay et al.	430	22	06/15/2001
*AL	US 2003/0002043	01/02/2003	Abdulhalim et al.	356	400	04/10/2001
*AM	US 2003/0043372	03/06/2003	Schulz	356	327	04/29/2002
*AN	US 2003/0042579	03/06/2003	Schulz	257	629	04/29/2002
*AO	US 2003/0044702	03/06/2003	Schulz	430	30	04/29/2002
*AP	US 2003/0190793	10/09/2003	Brill et al.	438	401	09/20/2001

FOREIGN PATENT DOCUMENTS

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
AQ	WO 02/25723 A2	03/28/2002	PCT	H01L	21/66		

OTHER DOCUMENTS  
*(Including Author, Title, Date, Pertinent Pages, Etc.)*

	AR	H-T. Huang et al., "Scatterometry-Based Overlay Metrology," <i>Metrology, Inspection, and Process Control for Microlithography XVII, Proceedings of SPIE</i> , Vol. 5038 (2003), pp. 126-137.
	AS	P. Heimann, "The Color-Box alignment vernier: a sensitive lithographic alignment vernier read at low magnification," <i>Optical Engineering</i> , Vol. 29, No. 7, July 1990, pp. 828-836.
	AT	K.M. Monahan, "Handbook of Critical Dimension Metrology and Process Control," <i>Critical Reviews of Optical Science and Technology, SPIE</i> , Vol. CR52, proceedings of a conference held 28-29 September 1993, pp. cover, 160-188.

Examiner	Date Considered
Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	